| L Number | Hits      | Search Text   | DB        | Time stamp         |
|----------|-----------|---|-----------|--------------------|
| 23       | 1594      |   | USPAT;    | 2004/10/20 10:50   |
|          |           | or undischarg\$4 or non-discharg\$4 or  | US-PGPUB; |                    |
|          |           | abnormal or non-eject\$4 or malfunction\$4  | EPO; JPO; |                    |
|          |           | or non-work\$4 or defect\$4 or failure)   | DERWENT   |                    |
|          |           | near3 nozzle\$1)  |           |                    |
| 24       | 495       | 1 ' '4 '  | USPAT;    | 2004/10/20 10:53   |
|          |           | ((non-function\$4 or undischarg\$4 or   | US-PGPUB; | ĺ                  |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   | DERWENT   |                    |
|          |           | or failure) near3 nozzle\$1) ) and  |           | 1                  |
|          |           | ((non-function\$4 or undischarg\$4 or   |           |                    |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   |           |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   |           |                    |
|          |           | or failure) near3 nozzle\$1) and  | ļ         |                    |
|          |           | ((substitut\$4 or complement\$4 or work\$4 or normal or neighbor\$4 or fuction\$4 or good |           |                    |
|          |           | or replac\$6 or supplement\$4) near3  |           |                    |
|          |           | nozzle\$1)  |           |                    |
| 25       | 239       |   | USPAT;    | 2004/10/20 11:05   |
| 23       | 239       | ((non-function\$4 or undischarg\$4 or   | US-PGPUB; | 2004, 10, 20 11:00 |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   | DERWENT   | 1                  |
|          |           | or failure) near3 nozzle\$1) ) and  |           |                    |
|          |           | ((non-function\$4 or undischarg\$4 or   |           |                    |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   |           |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   |           |                    |
|          |           | or failure) near3 nozzle\$1) and  |           | 1                  |
|          |           | ((substitut\$4 or complement\$4 or work\$4 or   |           |                    |
|          |           | normal or neighbor\$4 or fuction\$4 or good   |           |                    |
|          |           | or replac\$6 or supplement\$4) near3  |           |                    |
|          | 1         | nozzle\$1)) and (((non-function\$4 or   |           | 1                  |
|          |           | undischarg\$4 or non-discharg\$4 or abnormal  |           |                    |
|          |           | or non-eject\$4 or malfunction\$4 or  |           |                    |
|          |           | non-work\$4 or defect\$4 or failure) near3  |           |                    |
|          |           | nozzle\$1) same ((substitut\$4 or complement\$4 or work\$4 or normal or                   | _         | į.                 |
|          |           | neighbor\$4 or fuction\$4 or good or  | -         |                    |
|          |           | replac\$6 or supplement\$4) near3 nozzle\$1))   |           |                    |
| 26       | 17        | 1 -   | USPAT;    | 2004/10/20 10:53   |
| 20       | '         | ((non-function\$4 or undischarg\$4 or   | US-PGPUB; |                    |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   | DERWENT   |                    |
|          | 1         | or failure) near3 nozzle\$1) ) and  |           |                    |
|          |           | ((non-function\$4 or undischarg\$4 or   |           |                    |
|          |           | non-discharg\$4 or abnormal or non-eject\$4   |           |                    |
|          |           | or malfunction\$4 or non-work\$4 or defect\$4   |           |                    |
|          |           | or failure) near3 nozzle\$1) and  |           |                    |
|          |           | ((substitut\$4 or complement\$4 or work\$4 or   |           |                    |
|          | 1         | normal or neighbor\$4 or fuction\$4 or good   |           |                    |
|          |           | or replac\$6 or supplement\$4) near3  |           |                    |
|          |           | nozzle\$1)) and (((non-function\$4 or   |           |                    |
|          |           | undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4 or malfunction\$4 or         |           |                    |
|          |           | non-work\$4 or defect\$4 or failure) near3  |           |                    |
|          |           | nozzle\$1) same ((substitut\$4 or   |           |                    |
|          |           | complement\$4 or work\$4 or normal or   |           |                    |
|          |           | neighbor\$4 or fuction\$4 or good or  |           |                    |
|          | 1         | replac\$6 or supplement\$4) near3   |           |                    |
|          |           | nozzle\$1))) and (((non-function\$4 or  |           |                    |
|          |           | undischarg\$4 or non-discharg\$4 or abnormal  |           |                    |
|          |           | or non-eject\$4 or malfunction\$4 or  |           |                    |
|          |           | non-work\$4 or defect\$4 or failure) near3  |           |                    |
|          |           | nozzle\$1) same ((substitut\$4 or   |           |                    |
|          |           | complement\$4 or work\$4 or normal or   |           |                    |
|          |           | neighbor\$4 or fuction\$4 or good or  | 1         |                    |
|          |           | replac\$6 or supplement\$4) near3 nozzle\$1)  | 1         |                    |
|          | <u>.i</u> | same (adjcent or neighbor\$4))  |           | <u> </u>           |

| 27 | 222 | ((((print\$4 or record\$4) and  | USPAT;    | 2004/10/20 11:0 | 5 |
|----|-----|---|-----------|-----------------|---|
| _  |     | ((non-function\$4 or undischarg\$4 or   | US-PGPUB; |                 |   |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                 |   |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4   | DERWENT   |                 |   |
|    |     | or failure) near3 nozzle\$1) ) and  |           |                 |   |
|    |     | ((non-function\$4 or undischarg\$4 or   |           |                 |   |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   |           |                 |   |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4   |           |                 |   |
|    |     | or failure) near3 nozzle\$1) and  |           |                 |   |
|    |     | ((substitut\$4 or complement\$4 or work\$4 or   |           |                 |   |
|    |     | normal or neighbor\$4 or fuction\$4 or good   | İ         |                 |   |
|    |     | or replac\$6 or supplement\$4) near3  |           |                 |   |
|    | ,   | nozzle\$1)) and (((non-function\$4 or   |           |                 |   |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                 |   |
|    | 1   | or non-eject\$4 or malfunction\$4 or  |           |                 |   |
|    |     | non-work\$4 or defect\$4 or failure) near3  |           |                 |   |
|    |     | nozzle\$1) same ((substitut\$4 or   |           |                 |   |
|    | 1   | complement\$4 or work\$4 or normal or   |           |                 |   |
|    |     | neighbor\$4 or fuction\$4 or good or  |           |                 |   |
|    |     | replac\$6 or supplement\$4) near3   | 1         |                 |   |
|    |     |   |           |                 |   |
|    |     | nozzle\$1))) not (((((print\$4 or record\$4)  |           |                 |   |
|    |     | and ((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4 |           |                 |   |
|    |     |   |           |                 |   |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4   |           |                 |   |
|    |     | or failure) near3 nozzle\$1) ) and  |           |                 |   |
|    |     | ((non-function\$4 or undischarg\$4 or   |           |                 |   |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   |           |                 |   |
| Ì  |     | or malfunction\$4 or non-work\$4 or defect\$4   |           |                 |   |
|    |     | or failure) near3 nozzle\$1) and  |           |                 |   |
|    |     | ((substitut\$4 or complement\$4 or work\$4 or   |           |                 |   |
|    |     | normal or neighbor\$4 or fuction\$4 or good   |           |                 |   |
|    |     | or replac\$6 or supplement\$4) near3  |           |                 |   |
|    |     | nozzle\$1)) and (((non-function\$4 or   |           | 1               |   |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                 |   |
|    |     | or non-eject\$4 or malfunction\$4 or  |           |                 |   |
|    |     | non-work\$4 or defect\$4 or failure) near3  |           |                 |   |
|    |     | nozzle\$1) same ((substitut\$4 or   |           |                 |   |
|    | 1   | complement\$4 or work\$4 or normal or   |           |                 |   |
|    |     | neighbor\$4 or fuction\$4 or good or  |           |                 |   |
| i  |     | replac\$6 or supplement\$4) near3   |           |                 |   |
|    |     | nozzle\$1))) and (((non-function\$4 or  |           |                 |   |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                 |   |
|    |     | or non-eject\$4 or malfunction\$4 or  |           |                 |   |
|    |     | non-work\$4 or defect\$4 or failure) near3  |           |                 |   |
|    |     | nozzle\$1) same ((substitut\$4 or   |           |                 |   |
| į  |     | complement\$4 or work\$4 or normal or   |           |                 |   |
|    |     | neighbor\$4 or fuction\$4 or good or  |           |                 |   |
|    |     | replac\$6 or supplement\$4) near3 nozzle\$1)  |           |                 |   |
| 1  | 1   | same (adjcent or neighbor\$4)))   |           |                 |   |

| 28 | 119      | (((((print\$4 or record\$4) and               | USPAT;               | 2004/10/20 11:05 |
|----|----------|---|----------------------|------------------|
| 20 | 119      |   | US-PGPUB;            | 2004/10/20 11:05 |
|    |          | ((non-function\$4 or undischarg\$4 or         |                      | †                |
|    |          | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO;<br>DERWENT |                  |
|    |          | or malfunction\$4 or non-work\$4 or defect\$4 | DERWENT              |                  |
|    |          | or failure) near3 nozzle\$1) ) and            |                      |                  |
|    |          | ((non-function\$4 or undischarg\$4 or         |                      |                  |
|    |          | non-discharg\$4 or abnormal or non-eject\$4   |                      |                  |
|    |          | or malfunction\$4 or non-work\$4 or defect\$4 |                      |                  |
|    |          | or failure) near3 nozzle\$1) and              |                      |                  |
|    |          | ((substitut\$4 or complement\$4 or work\$4 or |                      |                  |
|    |          | normal or neighbor\$4 or fuction\$4 or good   |                      |                  |
|    |          | or replac\$6 or supplement\$4) near3          |                      |                  |
|    | İ        | nozzle\$1)) and (((non-function\$4 or         |                      |                  |
|    |          | undischarg\$4 or non-discharg\$4 or abnormal  |                      | 1                |
|    |          | or non-eject\$4 or malfunction\$4 or          |                      |                  |
|    |          | non-work\$4 or defect\$4 or failure) near3    |                      | 1                |
|    |          | nozzle\$1) same ((substitut\$4 or             |                      |                  |
|    |          | complement\$4 or work\$4 or normal or         |                      |                  |
|    |          | neighbor\$4 or fuction\$4 or good or          |                      |                  |
|    |          | replac\$6 or supplement\$4) near3             |                      |                  |
|    |          | nozzle\$1))) not ((((print\$4 or record\$4)   |                      |                  |
|    |          | and ((non-function\$4 or undischarg\$4 or     |                      |                  |
|    |          | non-discharg\$4 or abnormal or non-eject\$4   |                      |                  |
|    |          | or malfunction\$4 or non-work\$4 or defect\$4 |                      |                  |
|    |          | 1   |                      |                  |
|    |          | or failure) near3 nozzle\$1) ) and            |                      |                  |
|    |          | ((non-function\$4 or undischarg\$4 or         |                      |                  |
|    |          | non-discharg\$4 or abnormal or non-eject\$4   |                      |                  |
|    |          | or malfunction\$4 or non-work\$4 or defect\$4 |                      | !                |
|    |          | or failure) near3 nozzle\$1) and              |                      | 1                |
|    |          | ((substitut\$4 or complement\$4 or work\$4 or |                      |                  |
|    |          | normal or neighbor\$4 or fuction\$4 or good   |                      |                  |
|    | ļ        | or replac\$6 or supplement\$4) near3          |                      |                  |
|    |          | nozzle\$1)) and (((non-function\$4 or         |                      |                  |
|    | ĺ        | undischarg\$4 or non-discharg\$4 or abnormal  |                      |                  |
|    |          | or non-eject\$4 or malfunction\$4 or          |                      |                  |
|    |          | non-work\$4 or defect\$4 or failure) near3    |                      |                  |
|    |          | nozzle\$1) same ((substitut\$4 or             |                      |                  |
|    |          | complement\$4 or work\$4 or normal or         |                      |                  |
|    | I        | neighbor\$4 or fuction\$4 or good or          | 1                    |                  |
|    |          | replac\$6 or supplement\$4) near3             |                      |                  |
|    |          | nozzle\$1))) and (((non-function\$4 or        | 1                    |                  |
|    |          | undischarg\$4 or non-discharg\$4 or abnormal  |                      |                  |
|    |          | or non-eject\$4 or malfunction\$4 or          | 1                    |                  |
|    |          | non-work\$4 or defect\$4 or failure) near3    |                      |                  |
|    | 1        | nozzle\$1) same ((substitut\$4 or             | 1                    |                  |
|    |          | complement\$4 or work\$4 or normal or         |                      |                  |
|    |          | neighbor\$4 or fuction\$4 or good or          |                      |                  |
|    |          | replac\$6 or supplement\$4) near3 nozzle\$1)  |                      |                  |
|    | 1        | 1   |                      |                  |
|    |          | same (adjcent or neighbor\$4)))) and          |                      |                  |
|    | <u> </u> | ((single or one) near3 (scan\$4 or pass\$4))  | L                    | L                |

| 29 | 107 | ((((((print\$4 or record\$4) and              | USPAT;    | 2004/10/20 11:06 |
|----|-----|---|-----------|------------------|
|    |     | ((non-function\$4 or undischarg\$4 or         | US-PGPUB; |                  |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                  |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4 | DERWENT   |                  |
|    |     | or failure) near3 nozzle\$1) ) and            |           |                  |
|    |     | ((non-function\$4 or undischarg\$4 or         |           |                  |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |     | or failure) near3 nozzle\$1) and              |           |                  |
|    |     | ((substitut\$4 or complement\$4 or work\$4 or |           |                  |
|    |     | normal or neighbor\$4 or fuction\$4 or good   |           |                  |
|    |     | or replac\$6 or supplement\$4) near3          |           |                  |
|    | :   | nozzle\$1)) and (((non-function\$4 or         |           |                  |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                  |
|    |     | or non-eject\$4 or malfunction\$4 or          |           |                  |
|    |     | non-work\$4 or defect\$4 or failure) near3    |           |                  |
|    |     | nozzle\$1) same ((substitut\$4 or             |           |                  |
|    |     | complement\$4 or work\$4 or normal or         |           |                  |
|    |     | neighbor\$4 or fuction\$4 or good or          |           |                  |
|    |     | replac\$6 or supplement\$4) near3             |           |                  |
|    |     | nozzle\$1))) not ((((print\$4 or record\$4)   |           |                  |
|    |     | and ((non-function\$4 or undischarg\$4 or     |           |                  |
|    |     | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |     | or failure) near3 nozzle\$1) ) and            |           |                  |
|    |     | , , , ,                                       | i         |                  |
|    |     | ((non-function\$4 or undischarg\$4 or         |           |                  |
| ļ  |     | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
|    |     | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |     | or failure) near3 nozzle\$1) and              |           |                  |
| ľ  |     | ((substitut\$4 or complement\$4 or work\$4 or |           |                  |
|    |     | normal or neighbor\$4 or fuction\$4 or good   |           |                  |
|    |     | or replac\$6 or supplement\$4) near3          |           | 1                |
|    |     | nozzle\$1)) and (((non-function\$4 or         |           |                  |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                  |
|    |     | or non-eject\$4 or malfunction\$4 or          |           |                  |
|    |     | non-work\$4 or defect\$4 or failure) near3    |           |                  |
|    |     | nozzle\$1) same ((substitut\$4 or             |           |                  |
|    |     | complement\$4 or work\$4 or normal or         |           |                  |
|    |     | neighbor\$4 or fuction\$4 or good or          |           |                  |
|    |     | replac\$6 or supplement\$4) near3             |           |                  |
|    |     | nozzle\$1))) and (((non-function\$4 or        |           |                  |
|    |     | undischarg\$4 or non-discharg\$4 or abnormal  |           |                  |
|    |     | or non-eject\$4 or malfunction\$4 or          | 1         |                  |
|    |     | non-work\$4 or defect\$4 or failure) near3    |           |                  |
|    |     | nozzle\$1) same ((substitut\$4 or             |           |                  |
|    |     | complement\$4 or work\$4 or normal or         |           |                  |
|    |     | neighbor\$4 or fuction\$4 or good or          |           |                  |
|    |     | replac\$6 or supplement\$4) near3 nozzle\$1)  |           |                  |
|    |     | same (adjcent or neighbor\$4))) and           |           |                  |
|    |     | ((single or one) near3 (scan\$4 or            |           |                  |
|    |     | pass\$4))) and 347/\$.ccls.                   |           | 1                |

| 30 | 16 | ((((((print\$4 or record\$4) and              | USPAT;    | 2004/10/20 11:08 |
|----|----|---|-----------|------------------|
|    |    | ((non-function\$4 or undischarg\$4 or         | US-PGPUB; |                  |
|    |    | non-discharg\$4 or abnormal or non-eject\$4   | EPO; JPO; |                  |
|    |    | or malfunction\$4 or non-work\$4 or defect\$4 | DERWENT   |                  |
|    |    | or failure) near3 nozzle\$1) ) and            |           |                  |
|    |    | ((non-function\$4 or undischarg\$4 or         |           |                  |
| İ  |    | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
| ļ  | !  | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |    | or failure) near3 nozzle\$1) and              |           |                  |
| į  |    | ((substitut\$4 or complement\$4 or work\$4 or |           |                  |
|    |    | normal or neighbor\$4 or fuction\$4 or good   |           |                  |
|    |    | or replac\$6 or supplement\$4) near3          |           |                  |
|    |    | nozzle\$1)) and (((non-function\$4 or         |           |                  |
|    |    | undischarg\$4 or non-discharg\$4 or abnormal  |           |                  |
|    |    | or non-eject\$4 or malfunction\$4 or          |           |                  |
| 1  |    | non-work\$4 or defect\$4 or failure) near3    |           |                  |
| 1  |    | nozzle\$1) same ((substitut\$4 or             |           |                  |
| 1  |    | complement\$4 or work\$4 or normal or         |           |                  |
|    |    | neighbor\$4 or fuction\$4 or good or          |           |                  |
|    |    | replac\$6 or supplement\$4) near3             |           |                  |
|    |    | nozzle\$1))) not ((((print\$4 or record\$4)   |           |                  |
| i  |    | and ((non-function\$4 or undischarg\$4 or     |           |                  |
|    |    | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
| İ  |    | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |    | or failure) near3 nozzle\$1) ) and            |           |                  |
|    |    | ((non-function\$4 or undischarg\$4 or         |           |                  |
|    |    | non-discharg\$4 or abnormal or non-eject\$4   |           |                  |
|    |    | or malfunction\$4 or non-work\$4 or defect\$4 |           |                  |
|    |    | or failure) near3 nozzle\$1) and              |           |                  |
|    |    | ((substitut\$4 or complement\$4 or work\$4 or |           |                  |
|    |    | normal or neighbor\$4 or fuction\$4 or good   |           |                  |
|    |    | or replac\$6 or supplement\$4) near3          |           |                  |
|    |    | nozzle\$1)) and (((non-function\$4 or         |           | İ                |
|    |    | undischarg\$4 or non-discharg\$4 or abnormal  | ļ         |                  |
|    |    | or non-eject\$4 or malfunction\$4 or          | İ         |                  |
|    |    | non-work\$4 or defect\$4 or failure) near3    |           |                  |
| 1  |    | nozzle\$1) same ((substitut\$4 or             |           |                  |
| ľ  |    | complement\$4 or work\$4 or normal or         |           |                  |
|    |    | neighbor\$4 or fuction\$4 or good or          |           |                  |
|    |    | replac\$6 or supplement\$4) near3             |           |                  |
|    |    | nozzle\$1))) and (((non-function\$4 or        |           |                  |
|    |    | undischarg\$4 or non-discharg\$4 or abnormal  |           |                  |
|    |    | or non-eject\$4 or malfunction\$4 or          |           |                  |
|    |    | non-work\$4 or defect\$4 or failure) near3    |           |                  |
|    |    | nozzle\$1) same ((substitut\$4 or             |           |                  |
|    |    | complement\$4 or work\$4 or normal or         |           |                  |
|    |    | neighbor\$4 or fuction\$4 or good or          |           |                  |
| İ  |    | replac\$6 or supplement\$4) near3 nozzle\$1)  |           |                  |
|    |    | same (adjcent or neighbor\$4))) ) and         |           |                  |
|    |    | ((single or one) near3 (scan\$4 or            | 1         |                  |
|    |    | pass\$4))) and 347/\$.ccls.) and              | 1         |                  |
|    |    | 347/40.ccls.                                  |           |                  |

| 31        | 15      | (((((((print\$4 or record\$4) and  | USPAT;       | 2004/10/20 11:12 |
|-----------|---------|--|--------------|------------------|
|           |         | ((non-function\$4 or undischarg\$4 or  | US-PGPUB;    |                  |
|           |         | non-discharg\$4 or abnormal or non-eject\$4  | EPO; JPO;    |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  | DERWENT      |                  |
|           |         | or failure) near3 nozzle\$1) ) and ((non-function\$4 or undischarg\$4 or               |              |                  |
|           |         | non-discharg\$4 or abnormal or non-eject\$4  |              |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  |              |                  |
|           |         | or failure) near3 nozzle\$1) and   |              |                  |
|           |         | ((substitut\$4 or complement\$4 or work\$4 or  |              |                  |
|           |         | normal or neighbor\$4 or fuction\$4 or good  |              |                  |
|           |         | or replac\$6 or supplement\$4) near3   |              |                  |
|           |         | nozzle\$1)) and (((non-function\$4 or  |              |                  |
| •         |         | undischarg\$4 or non-discharg\$4 or abnormal   |              | İ                |
|           |         | or non-eject\$4 or malfunction\$4 or   |              |                  |
|           |         | non-work\$4 or defect\$4 or failure) near3   |              |                  |
|           |         | nozzle\$1) same ((substitut\$4 or complement\$4 or work\$4 or normal or                |              |                  |
|           |         | neighbor\$4 or fuction\$4 or good or   |              |                  |
|           |         | replac\$6 or supplement\$4) near3  |              |                  |
|           |         | nozzle\$1))) not (((((print\$4 or record\$4)   |              |                  |
|           |         | and ((non-function\$4 or undischarg\$4 or  |              |                  |
|           |         | non-discharg\$4 or abnormal or non-eject\$4  | 1            |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  |              |                  |
|           |         | or failure) near3 nozzle\$1) ) and   |              |                  |
|           |         | ((non-function\$4 or undischarg\$4 or  |              |                  |
|           |         | non-discharg\$4 or abnormal or non-eject\$4  |              |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  | }            |                  |
|           |         | or failure) near3 nozzle\$1) and ((substitut\$4 or complement\$4 or work\$4 or         |              | ļ                |
|           |         | normal or neighbor\$4 or fuction\$4 or good  |              |                  |
|           |         | or replac\$6 or supplement\$4) near3   |              |                  |
|           |         | nozzle\$1)) and (((non-function\$4 or  |              |                  |
|           |         | undischarg\$4 or non-discharg\$4 or abnormal   |              |                  |
|           |         | or non-eject\$4 or malfunction\$4 or   |              |                  |
|           |         | non-work\$4 or defect\$4 or failure) near3   |              |                  |
|           |         | nozzle\$1) same ((substitut\$4 or  |              |                  |
|           |         | complement\$4 or work\$4 or normal or  |              |                  |
|           |         | neighbor\$4 or fuction\$4 or good or   |              |                  |
|           |         | replac\$6 or supplement\$4) near3  |              |                  |
|           | Ì       | nozzle\$1))) and (((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal    |              |                  |
|           | ĺ       | or non-eject\$4 or malfunction\$4 or   |              |                  |
|           |         | non-work\$4 or defect\$4 or failure) near3   |              |                  |
|           |         | nozzle\$1) same ((substitut\$4 or  |              |                  |
|           |         | complement\$4 or work\$4 or normal or  |              |                  |
|           |         | neighbor\$4 or fuction\$4 or good or   |              |                  |
|           |         | replac\$6 or supplement\$4) near3 nozzle\$1)   |              |                  |
|           |         | same (adjcent or neighbor\$4))) ) and  |              |                  |
|           |         | ((single or one) near3 (scan\$4 or   |              |                  |
|           | -       | pass\$4))) and 347/\$.ccls.) not   |              |                  |
|           |         | ((((((((print\$4 or record\$4) and   |              |                  |
|           |         | ((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4      |              |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  |              |                  |
|           |         | or failure) near3 nozzle\$1) ) and   |              |                  |
|           |         | ((non-function\$4 or undischarg\$4 or  |              |                  |
|           |         | non-discharg\$4 or abnormal or non-eject\$4  | 1            |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  |              |                  |
|           |         | or failure) near3 nozzle\$1) and   |              |                  |
|           |         | ((substitut\$4 or complement\$4 or work\$4 or  |              |                  |
|           | E       | normal or neighbor\$4 or fuction\$4 or good  |              |                  |
|           |         | or replac\$6 or supplement\$4) near3   |              |                  |
|           |         | nozzle\$1)) and (((non-function\$4 or  |              |                  |
|           |         | undischarg\$4 or non-discharg\$4 or abnormal   |              |                  |
|           |         | or non-eject\$4 or malfunction\$4 or non-work\$4 or defect\$4 or failure) near3        |              |                  |
|           | 4       | nozzle\$1) same ((substitut\$4 or  |              |                  |
|           |         | complement\$4 or work\$4 or normal or  |              |                  |
|           |         | neighbor\$4 or fuction\$4 or good or   |              |                  |
|           | 1       | replac\$6 or supplement\$4) near3  |              |                  |
|           |         | nozzle\$1))) not ((((print\$4 or record\$4)  |              |                  |
| Search Hi | story 1 | and, ((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4 | <del> </del> | <del> </del>     |
| Dearch HI | 7       | 'non-discharg\$4 of abnormal or non-eject\$4   |              |                  |
|           |         | or malfunction\$4 or non-work\$4 or defect\$4  |              |                  |
|           | 1       | or failure) near3 nozzle\$1) ) and   | 1            |                  |
|           |         |  |              |                  |

| 2       | 41       | (((((((print\$4 or record\$4) and  | USPAT;    | 2004/10/20 11:1   |
|---------|----------|--|-----------|-------------------|
| _       | ""       | ((non-function\$4 or undischarg\$4 or  | US-PGPUB; | 3001, 20, 20 11.1 |
|         |          | non-discharg\$4 or abnormal or non-eject\$4  | EPO; JPO; |                   |
|         |          | or malfunction\$4 or non-work\$4 or defect\$4  | DERWENT   |                   |
|         |          | or failure) near3 nozzle\$1) ) and   |           |                   |
|         |          | ((non-function\$4 or undischarg\$4 or  |           |                   |
|         |          | non-discharg\$4 or abnormal or non-eject\$4  |           |                   |
|         |          | or malfunction\$4 or non-work\$4 or defect\$4  |           |                   |
|         |          | or failure) near3 nozzle\$1) and   |           |                   |
|         |          | ((substitut\$4 or complement\$4 or work\$4 or  |           |                   |
|         |          | normal or neighbor\$4 or fuction\$4 or good  |           |                   |
|         |          | or replac\$6 or supplement\$4) near3   | ĺ         |                   |
|         |          |  |           |                   |
|         |          | nozzle\$1)) and (((non-function\$4 or  |           |                   |
|         |          | undischarg\$4 or non-discharg\$4 or abnormal   |           |                   |
|         |          | or non-eject\$4 or malfunction\$4 or   |           |                   |
|         |          | non-work\$4 or defect\$4 or failure) near3   |           |                   |
|         |          | nozzle\$1) same ((substitut\$4 or  |           |                   |
|         |          | complement\$4 or work\$4 or normal or  |           |                   |
|         | İ        | neighbor\$4 or fuction\$4 or good or   |           |                   |
|         |          | replac\$6 or supplement\$4) near3  |           |                   |
|         |          | nozzle\$1))) not (((((print\$4 or record\$4)   |           |                   |
|         |          | and ((non-function\$4 or undischarg\$4 or  |           |                   |
|         |          | non-discharg\$4 or abnormal or non-eject\$4  |           |                   |
|         |          | or malfunction\$4 or non-work\$4 or defect\$4  |           |                   |
|         |          | or failure) near3 nozzle\$1) ) and   |           |                   |
|         |          | ((non-function\$4 or undischarg\$4 or  |           |                   |
|         |          | non-discharg\$4 or abnormal or non-eject\$4  |           |                   |
|         |          | or malfunction\$4 or non-work\$4 or defect\$4  |           |                   |
|         |          | or failure) near3 nozzle\$1) and   |           |                   |
|         |          | ((substitut\$4 or complement\$4 or work\$4 or  |           |                   |
|         |          | normal or neighbor\$4 or fuction\$4 or good  | 1         |                   |
|         |          | or replac\$6 or supplement\$4) near3   |           |                   |
|         |          | nozzle\$1)) and (((non-function\$4 or  |           |                   |
|         |          | undischarg\$4 or non-discharg\$4 or abnormal   |           | 1                 |
|         |          |  |           |                   |
|         |          | or non-eject\$4 or malfunction\$4 or   |           |                   |
|         |          | non-work\$4 or defect\$4 or failure) near3   |           |                   |
|         |          | nozzle\$1) same ((substitut\$4 or  |           |                   |
|         |          | complement\$4 or work\$4 or normal or  |           |                   |
|         |          | neighbor\$4 or fuction\$4 or good or   |           | 1                 |
|         |          | replac\$6 or supplement\$4) near3  |           |                   |
|         |          | nozzle\$1))) and (((non-function\$4 or   |           |                   |
|         |          | undischarg\$4 or non-discharg\$4 or abnormal   |           |                   |
|         |          | or non-eject\$4 or malfunction\$4 or   |           |                   |
|         |          | non-work\$4 or defect\$4 or failure) near3   |           |                   |
|         |          | nozzle\$1) same ((substitut\$4 or  |           |                   |
|         |          | complement\$4 or work\$4 or normal or  |           |                   |
|         |          | neighbor\$4 or fuction\$4 or good or   |           | i                 |
|         |          | replac\$6 or supplement\$4) near3 nozzle\$1)   |           |                   |
|         |          | same (adjcent or neighbor\$4))) ) and  |           |                   |
|         | 1        | ((single or one) near3 (scan\$4 or   |           |                   |
|         |          | pass\$4))) and 347/\$.ccls.) not   |           |                   |
|         | 1        | ((((((((print\$4 or record\$4) and   |           |                   |
|         | 1        | ((non-function\$4 or undischarg\$4 or  |           |                   |
|         | 1        | non-discharg\$4 or abnormal or non-eject\$4  |           |                   |
|         | 1        | or malfunction\$4 or non-work\$4 or defect\$4  |           |                   |
|         | 1        | or failure) near3 nozzle\$1) ) and   |           |                   |
|         |          | ((non-function\$4 or undischarg\$4 or  |           |                   |
|         |          |  |           |                   |
|         | 1        | non-discharg\$4 or abnormal or non-eject\$4  |           |                   |
|         |          | or malfunction\$4 or non-work\$4 or defect\$4  |           |                   |
|         |          | or failure) near3 nozzle\$1) and   |           | İ                 |
|         |          | ((substitut\$4 or complement\$4 or work\$4 or  |           | 1                 |
|         |          | normal or neighbor\$4 or fuction\$4 or good  |           | 1                 |
|         | Į.       | or replac\$6 or supplement\$4) near3   |           |                   |
|         |          | nozzle\$1)) and (((non-function\$4 or  |           |                   |
|         |          | undischarg\$4 or non-discharg\$4 or abnormal   |           |                   |
|         |          | or non-eject\$4 or malfunction\$4 or   |           |                   |
|         |          | non-work\$4 or defect\$4 or failure) near3   |           |                   |
|         |          | nozzle\$1) same ((substitut\$4 or  |           |                   |
|         |          | complement\$4 or work\$4 or normal or  |           |                   |
|         |          | neighbor\$4 or fuction\$4 or good or   |           |                   |
|         |          | replac\$6 or supplement\$4) near3  |           |                   |
|         |          | nozzle\$1))) not ((((print\$4 or record\$4)  |           |                   |
|         |          | -and ((non-function\$4 or undiachara\$4-or   | <b>_</b>  | ļ                 |
| arch Hi | istory 1 | 0/20/04 11:18:19 AM Page 7 Page 7 Page 1 Pag | 1         | •                 |
|         | 1        | or malfunction\$4 or non-work\$4 or defect\$4  | 1         | 1                 |
|         |          |  |           |                   |

|            |        |   |                        | 1 666 4 76 6 76 6 7 6 7 |
|------------|--------|---|------------------------|-------------------------|
| 33         | 12     | ((((((print\$4 or record\$4) and  | USPAT;                 | 2004/10/20 11:17        |
|            |        | ((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4           | US-PGPUB;<br>EPO; JPO; |                         |
|            |        | or malfunction\$4 or non-work\$4 or defect\$4   | DERWENT                |                         |
|            |        | or failure) near3 nozzle\$1) ) and  | DUNMENT                | 1                       |
|            |        | ((non-function\$4 or undischarg\$4 or   | •                      |                         |
|            |        | non-discharg\$4 or abnormal or non-eject\$4   |                        | 1                       |
|            |        | or malfunction\$4 or non-work\$4 or defect\$4   |                        |                         |
|            |        | or failure) near3 nozzle\$1) and  |                        |                         |
|            |        | ((substitut\$4 or complement\$4 or work\$4 or   | İ                      |                         |
|            |        | normal or neighbor\$4 or fuction\$4 or good   |                        |                         |
|            |        | or replac\$6 or supplement\$4) near3  |                        |                         |
|            |        | nozzle\$1)) and (((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal          |                        |                         |
|            |        | or non-eject\$4 or malfunction\$4 or  | •                      |                         |
|            |        | non-work\$4 or defect\$4 or failure) near3  |                        |                         |
|            |        | nozzle\$1) same ((substitut\$4 or   |                        |                         |
|            |        | complement\$4 or work\$4 or normal or   |                        |                         |
|            |        | neighbor\$4 or fuction\$4 or good or  |                        | 1                       |
|            |        | replac\$6 or supplement\$4) near3   |                        |                         |
|            | 1      | nozzle\$1))) not (((((print\$4 or record\$4)  |                        |                         |
|            |        | and ((non-function\$4 or undischarg\$4 or   |                        |                         |
|            |        | non-discharg\$4 or abnormal or non-eject\$4 or malfunction\$4 or non-work\$4 or defect\$4   | 1                      |                         |
|            |        | or failure) near3 nozzle\$1) ) and  |                        |                         |
|            |        | ((non-function\$4 or undischarg\$4 or   |                        |                         |
|            |        | non-discharg\$4 or abnormal or non-eject\$4   |                        |                         |
|            |        | or malfunction\$4 or non-work\$4 or defect\$4   |                        |                         |
|            |        | or failure) near3 nozzle\$1) and  |                        |                         |
|            |        | ((substitut\$4 or complement\$4 or work\$4 or   |                        |                         |
|            |        | normal or neighbor\$4 or fuction\$4 or good   |                        | 1                       |
|            |        | or replac\$6 or supplement\$4) near3  |                        |                         |
|            |        | nozzle\$1)) and (((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal          |                        |                         |
| İ          |        | or non-eject\$4 or malfunction\$4 or  |                        |                         |
|            |        | non-work\$4 or defect\$4 or failure) near3  |                        | 1                       |
| !          |        | nozzle\$1) same ((substitut\$4 or   |                        |                         |
|            |        | complement\$4 or work\$4 or normal or   |                        |                         |
| į          |        | neighbor\$4 or fuction\$4 or good or  | ľ                      |                         |
|            |        | replac\$6 or supplement\$4) near3   |                        |                         |
|            |        | nozzle\$1))) and (((non-function\$4 or  |                        |                         |
|            |        | undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4 or malfunction\$4 or           |                        |                         |
|            |        | non-work\$4 or defect\$4 or failure) near3  |                        |                         |
|            |        | nozzle\$1) same ((substitut\$4 or   |                        | 1                       |
|            |        | complement\$4 or work\$4 or normal or   |                        |                         |
|            |        | neighbor\$4 or fuction\$4 or good or  |                        |                         |
|            |        | replac\$6 or supplement\$4) near3 nozzle\$1)  |                        |                         |
|            |        | same (adjcent or neighbor\$4))) ) and   |                        |                         |
|            |        | ((single or one) near3 (scan\$4 or  |                        |                         |
|            |        | pass\$4))) not ((((((print\$4 or record\$4)   |                        |                         |
|            |        | and ((non-function\$4 or undischarg\$4 or non-discharg\$4 or abnormal or non-eject\$4       |                        |                         |
|            |        | or malfunction\$4 or non-work\$4 or defect\$4   |                        |                         |
|            |        | or failure) near3 nozzle\$1) ) and  |                        |                         |
| 1          |        | ((non-function\$4 or undischarg\$4 or   |                        | ,                       |
|            |        | non-discharg\$4 or abnormal or non-eject\$4   |                        |                         |
|            |        | or malfunction\$4 or non-work\$4 or defect\$4   |                        |                         |
|            |        | or failure) near3 nozzle\$1) and  |                        |                         |
|            |        | ((substitut\$4 or complement\$4 or work\$4 or   |                        |                         |
| 1          |        | normal or neighbor\$4 or fuction\$4 or good   |                        |                         |
| 1          |        | or replac\$6 or supplement\$4) near3 nozzle\$1)) and (((non-function\$4 or                  |                        |                         |
|            |        | undischarg\$4 or non-discharg\$4 or abnormal  |                        |                         |
| 1          |        | or non-eject\$4 or malfunction\$4 or  |                        |                         |
|            |        | non-work\$4 or defect\$4 or failure) near3  |                        |                         |
|            |        | nozzle\$1) same ((substitut\$4 or   |                        |                         |
|            |        | complement\$4 or work\$4 or normal or   |                        |                         |
|            |        | neighbor\$4 or fuction\$4 or good or  |                        |                         |
|            |        | replac\$6 or supplement\$4) near3   |                        |                         |
|            |        | nozzle\$1))) not (((((print\$4 or record\$4) and ((non-function\$4 or undischarg\$4 or      |                        |                         |
|            |        |   |                        |                         |
| Search His | tory 1 | non dischargs4 or abnormal or non-eject\$4<br>or malfunction\$4 or non-work\$4 or defect\$4 | 1                      |                         |
|            |        | or failure) near3 nozzle\$1) ) and  | 1                      |                         |
|            |        | ((non-function\$4 or undischarg\$4 or   | 1                      |                         |
| •          | 1      |   | •                      | •                       |
|            |        |   |                        |                         |